

Translation

PATENT COOPERATION TREATY

PCT/EP2003/007725



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70) Rec'd PCT/PTO 18 JAN 2005

Applicant's or agent's file reference WO 38163	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/007725	International filing date (day/month/year) 16 July 2003 (16.07.2003)	Priority date (day/month/year) 17 July 2002 (17.07.2002)
International Patent Classification (IPC) or national classification and IPC H01M 4/60		
Applicant GAIA AKKUMULATORENWERKE GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>11</u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 16 February 2004 (16.02.2004)	Date of completion of this report 07 July 2004 (07.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____, 1, 2, 8-17 _____, as originally filed
pages _____, filed with the demand
pages _____ 3-7 _____, filed with the letter of _____ 28 June 2004 (28.06.2004)
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-32 _____, filed with the letter of _____ 28 June 2004 (28.06.2004)
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-32	YES
	Claims		NO
Inventive step (IS)	Claims	1-32	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-32	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents (see in principle the documents and passages cited in the search report):

D1: US-A-5824120

D2: EP-A-0774472

2. The present application meets the requirements of PCT Article 33(1) to (3). The subject matter of the claims is novel (PCT Article 33(2)) and involves an inventive step (PCT Article 33(3)).

3. Document D1 is considered the closest prior art. D1 discloses a bonding agent from which the subject matter of claim 1 differs merely in that the dispersion does not contain an amine or ammonium salt of a perfluorocarboxylic acid. The dispersion can be aqueous, as in the present application. The bonding agent as per D1 is employed to produce electrodes which are used in secondary batteries. The compositions of cathodes and anodes, the electrically conductive material, and the structure of the electrodes and/or the secondary batteries are standard measures. The subject matter of independent

claims 1, 18, 29 and 31 is therefore novel over D1.

D2 discloses the preparation of aqueous fluoropolymer dispersions. Perfluorated emulsifiers are added to these dispersions. The presence of an electrically conductive material is not mentioned. Amine and ammonium salts as per claim 1 of the application are preferred. D2 does not describe a bonding agent. The subject matter of claim 1 is also novel over D2. The fluoropolymer dispersions of D2 are not used to produce electrodes or batteries.

4. The problem addressed by the application is that of improving the bonding of the electrode material to the aroma collectors so as to avoid clear malfunctions from arising during the battery charging/discharging process after only a few cycles (application: page 3, lines 8-21).

This problem is solved by the addition of an amine or ammonium salt. This solution cannot be derived from D1. A person skilled in the art would not take into consideration the teaching of D2 for solving the problem addressed by the application since said document relates to the provision of fluororubbers (page 2, lines 34-35) and contains no suggestion as to the use of amine or ammonium salts for producing bonding agents. An inventive step can therefore be acknowledged for the subject matter of independent claims 1, 18, 29 and 31.

In substantiating inventive step, it does not appear appropriate to carry out a direct comparison of the results of example 1 and those of the comparative example 1 because these examples use different

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polymers and therefore the compositions of the bonding agents that are to be compared differ from one another not only in the removal of the amine or ammonium salt.